

**What is claimed is:**

1. An imaging prevention method for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention method comprising:

5 projecting infrared light to a viewer/audience direction from at least one or more infrared light projector means,

said at least one or more infrared light projector means being disposed at a rear side of the screen,

whereby enabling said infrared light to be incident into imaging means of a person conducting the unauthorized act.

2. The imaging prevention method according to claim 1, further comprising:

15 letting at least a part of the infrared light pass through space besides the screen so as said part of the infrared light to be directly incident into said imaging means of a person conducting the unauthorized act.

3. The imaging prevention method according to claim 1, further comprising:

20 transmitting at least a part of the infrared light through the screen so as said part of the infrared light to be incident into said imaging means of a person conducting the unauthorized act.

25 4. The imaging prevention method according to claim 1, further comprising:

30 letting at least a part of the infrared light pass through a pass-through part provided in the screen so as said part of the infrared light to be incident directly into said imaging means of a person conducting the unauthorized act.

5. A imaging prevention method for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention method comprising:

directly projecting infrared light to a viewer/audience side from at  
5 least one or more infrared light projector means,  
said at least one or more infrared light projector means being disposed at a front side of the screen viewing from the viewer/audience side,  
whereby enabling said infrared light to be directly incident into  
10 imaging means of a person conducting the unauthorized act.

6. A imaging prevention method for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention method comprising:

15 directly projecting infrared light to a viewer/audience side from at least one or more infrared light projector means,  
said at least one or more infrared light projector means being disposed in a vicinity of the screen,  
whereby enabling said infrared light to be directly incident into  
20 imaging means of a person conducting the unauthorized act.

7. A imaging prevention method for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention method comprising:

25 reflecting infrared light by infrared reflection means to a viewer/audience side,  
whereby enabling said infrared light to be directly incident into imaging means of a person conducting the unauthorized act,  
said infrared light being projected from at least one or more  
30 infrared light projector means.

8. The imaging prevention method according to claim 7, further comprising:

driving said infrared light reflection means with actuator means to variably control a reflection direction whereby scanning the viewer/audience side with reflection light reflected by said infrared light reflection means.

9. A imaging prevention method for interfering unauthorized imaging of visual image projected on a screen, further comprising:

intermittently emitting infrared light from at least one or more infrared light projector means,

whereby enabling a predetermined intermittent emission pattern to be recorded in imaging means of a person conducting the unauthorized act.

10. A imaging prevention method for interfering unauthorized imaging of visual image projected on a screen, further comprising:

intermittently emitting infrared light from at least one or more infrared light projector means in accordance with a predetermined code information,

whereby enabling information along a time axis direction to be recorded in imaging means of a person conducting the unauthorized act.

11. A imaging prevention method for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention method comprising:

intermittently emitting infrared light from a plurality of infrared light projector means in relay pattern in accordance with a predetermined code information,

whereby enabling information along a time axis direction to be recorded in imaging means of a person conducting the unauthorized act.

12. A imaging prevention method for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention method comprising:

5 intermittently emitting infrared light from a plurality of infrared light projector means in relay pattern in accordance with a predetermined code information,

whereby enabling a two-dimensional information to be recorded in imaging means of a person conducting the unauthorized act.

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13. A imaging prevention method for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention method comprising:

controlling a plurality of infrared light projector means to emit in  
15 a predetermined combination,

whereby enabling a two-dimensional information to be recorded in imaging means of a person conducting the unauthorized act.

14. A imaging prevention method for interfering unauthorized  
20 imaging of visual image projected on a screen, the imaging prevention method comprising:

disposing at least one or more infrared light projector means at a rear side of the screen viewing from a viewer/audience side, said at least one or more infrared light projector means comprising an array of light  
25 emitting devices, and

controlling individual light emitting device to generate an emission pattern of said infrared light,

whereby enabling a predetermined information to be recorded in imaging means of a person conducting the unauthorized act.

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15. A imaging prevention method for interfering unauthorized

imaging of visual image projected on a screen, the imaging prevention method comprising:

detecting brightness at a screen surface with at least one or more light sensors facing said screen surface, and

5        increasing an amount of infrared light projected from an infrared light projector means as the detected brightness of said screen surface decrease,

      said at least one or more light sensors being disposed behind said screen viewing from viewer/audience side.

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16.    A imaging prevention method for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention method comprising:

      detecting brightness at a screen surface with at least one or more  
15    light sensors facing said screen surface, and

      projecting infrared light from at least one or more infrared light projector means in case that the brightness of said screen surface is equal or less than a predetermined brightness,

      whereby enabling said infrared light to be incident into imaging  
20    means of a person conducting the unauthorized act,

      said at least one or more light sensors being disposed behind said screen viewing from viewer/audience side.

17.    The imaging prevention method according to claim 16, further  
25    comprising:

      projecting infrared light when a predetermined number of detection results are obtained, wherein

      each of said detection results indicates that the brightness of said screen surface is equal or less than said predetermined brightness, and

30        each of said detection results is obtained from one of said light sensor disposed in a vicinity of the center of said screen.

18. A imaging prevention method for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention method comprising:

5 detecting brightness at a screen surface with at least one or more light sensors facing said screen surface, and

individually projecting infrared light from at least one or more infrared light projector means in case that the brightness of said screen surface is equal or less than a predetermined brightness,

10 whereby enabling said infrared light to be incident into imaging means of a person conducting the unauthorized act,

said at least one or more light sensors being disposed behind said screen viewing from viewer/audience side, and said infrared light projector means projecting the infrared light being associated with an  
15 area corresponding to the light sensor detecting the brightness equal or less than said predetermined brightness.

19. A imaging prevention method for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention  
20 method comprising:

reproducing time information, in which brightness at the screen becomes equal or less than a predetermined brightness value, from a recording medium, and projecting infrared light from at least one or more infrared light projector means in accordance with the reproduced  
25 information,

whereby enabling said infrared light to be incident into imaging means of a person conducting the unauthorized act.

20. A imaging prevention method for interfering unauthorized  
30 imaging of visual image projected on a screen, the imaging prevention method comprising:

reproducing area and time information, in which brightness at the screen becomes equal or less than a predetermined brightness value, from a recoding medium, and

individually projecting infrared light from at least one or more  
5 infrared light projector means associated with corresponding area on the screen in accordance with the reproduced information,

whereby enabling said infrared light to be incident into imaging means of a person conducting the unauthorized act.

10 21. A imaging prevention method for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention method comprising:

receiving information from a network for time in which  
brightness at the screen becomes equal or less than a predetermined  
15 brightness value in synchronization with the projection of said visual image, and

projecting infrared light from at least one or more infrared light projector means in accordance with the received information,

whereby enabling said infrared light to be incident into imaging  
20 means of a person conducting the unauthorized act.

22. A imaging prevention method for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention method comprising:

25 receiving information from a network for area and time in which brightness at the screen becomes equal or less than a predetermined brightness value in synchronization with the projection of said visual image, and

individually projecting infrared light from at least one or more  
30 infrared light projector means associated with corresponding areas on the screen in accordance with the received information,

whereby enabling said infrared light to be incident into imaging means of a person conducting the unauthorized act.

23. A imaging prevention method for interfering unauthorized  
5 imaging of visual image projected on a screen, the imaging prevention method comprising:

projecting infrared light from at least one or more infrared light projector means during a period of shielding the projection light with a frame transferring shutter when the visual image is projected from a film  
10 type projector means,

whereby enabling said infrared light to be incident into imaging means of a person conducting the unauthorized act.

24. A imaging prevention method for interfering unauthorized  
15 imaging of visual image projected on a screen, the imaging prevention method comprising:

projecting infrared light from at least one or more infrared light projector means disposed in a vicinity of the screen,

whereby enabling said infrared light reflected on the screen to be  
20 incident into imaging means of a person conducting the unauthorized act.

25. A imaging prevention method for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention method comprising:

25 automatically adjusting a projection direction of at least one or more infrared light projector means in correspondence with size change of the screen, said at least one or more infrared light projector means being disposed in a vicinity of the screen, and

projecting infrared light to the adjusted projection direction,  
30 whereby enabling said infrared light reflected on the screen to be incident into imaging means of a person conducting the unauthorized act.



26. A imaging prevention system for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention system comprising:

5           at least one or more infrared light projector means disposed at a rear side of the screen viewing from a viewer/audience side for projecting infrared light so as said infrared light to be incident into imaging means of a person conducting the unauthorized act.

10   27. The imaging prevention system according to claim 26, wherein:  
said infrared light projector means is disposed in such a way that at least a part of said infrared light is directly incident into said imaging means of a person conducting the unauthorized act without transmitting through the screen.

15   28. The imaging prevention system according to claim 26, wherein:  
said infrared light projector means is disposed in such a way that at least a part of said infrared light transmits through the screen and is incident into said imaging means of a person conducting the unauthorized  
20 act.

29. The imaging prevention system according to claim 26, wherein:  
said infrared light projector means is disposed in such a way that at least a part of said infrared light directly is incident into said imaging  
25 means of a person conducting the unauthorized act via passing through a pass-through part provided in the screen.

30. A imaging prevention system for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention  
30 system comprising:

at least one or more infrared light projector means disposed at a

front side of the screen viewing from a viewer/audience side for projecting infrared light so as said infrared light directly to be incident into imaging means of a person conducting the unauthorized act.

- 5 31. A imaging prevention system for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention system comprising:

at least one or more infrared light projector means disposed in a vicinity of the screen for projecting infrared light so as said infrared light  
10 to be directly incident into imaging means of a person conducting the unauthorized act.

32. A imaging prevention system for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention  
15 system comprising:

at least one or more infrared light projector means for projecting infrared light; and

infrared light reflection means for reflecting infrared light projected from at least one or more infrared light projector means so as  
20 said infrared light to be directly incident into imaging means of a person conducting the unauthorized act.

33. The imaging prevention system according to claim 32, further comprising:

25 actuator means for variably controlling said infrared light reflection means or its reflection surface so as that the reflection light from said infrared light reflection means scans an area of the viewer/audience side.

- 30 34. A imaging prevention system for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention

system comprising:

at least one or more infrared light projector means for projecting infrared light; and

emission control means for controlling said at least one or more  
5 infrared light projector means to emit intermittently so as imaging means of a person conducting the unauthorized act record a predetermined pattern of the intermittent emission.

35. A imaging prevention system for interfering unauthorized  
10 imaging of visual image projected on a screen, the imaging prevention system comprising:

at least one or more infrared light projector means for projecting infrared light; and

emission control means for controlling said at least one or more  
15 infrared light projector means to emit intermittently in accordance with a predetermined code information so as imaging means of a person conducting the unauthorized act record information along a time axis.

36. A imaging prevention system for interfering unauthorized  
20 imaging of visual image projected on a screen, the imaging prevention system comprising:

at least one or more infrared light projector means for projecting infrared light; and

emission control means for controlling a plurality of infrared light  
25 projector means to emit intermittently in relay format in accordance with a predetermined code information so as imaging means of a person conducting the unauthorized act record information along a time axis.

37. A imaging prevention system for interfering unauthorized  
30 imaging of visual image projected on a screen, the imaging prevention system comprising:

at least one or more infrared light projector means for projecting infrared light; and

emission control means for controlling a plurality of infrared light projector means to emit intermittently in relay format in accordance with a predetermined code information so as that imaging means of a person conducting the unauthorized act record a two-dimensional information.

38. A imaging prevention system for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention system comprising:

at least one or more infrared light projector means for projecting infrared light; and

emission control means for controlling a plurality of infrared light projector means to emit intermittently in a predetermined combination so as that imaging means of a person conducting the unauthorized act record a two-dimensional information.

39. A imaging prevention system for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention system comprising:

at least one or more infrared light projector means comprising a plurality of light emitting devices disposed in an array for projecting infrared light; and

an infrared light projection control unit for individually controlling said light emitting device of said infrared light projector means disposed in a rear side of the screen viewing from a viewer/audience side so as that imaging means of a person conducting the unauthorized act record a predetermined information corresponding to an emission pattern of said infrared light.

40. A imaging prevention system for interfering unauthorized

imaging of visual image projected on a screen, the imaging prevention system comprising:

at least one or more infrared light projector means for projecting infrared light; and

5 at least one or more light sensors disposed in a rear side of the screen viewing from a viewer/audience side for detecting brightness of the facing screen, wherein

a detection result of said light sensor is outputted to the corresponding infrared light projector means as a light amount adjusting  
10 signal for increasing an amount of the infrared light as the detected brightness of the screen surface decrease.

41. A imaging prevention system for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention  
15 system comprising:

at least one or more infrared light projector means for projecting infrared light;

at least one or more light sensors disposed in a rear side of the screen viewing from a viewer/audience side; and

20 an infrared light projection control unit for accepting output signals from said light sensors and for controlling said at least one or more infrared light projector means to project the infrared light in case that a brightness of the screen surface facing said light sensor is equal or less than a predetermined brightness.

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42. The imaging prevention system according to claim 41, wherein

said an infrared light projection control unit control to project infrared light when a predetermined number of detection results are obtained, wherein:

30 each of said detection results indicates that the brightness of said screen surface is equal or less than said predetermined brightness, and

each of said detection results is obtained from one of said light sensor disposed in a vicinity of the center of said screen.

43. A imaging prevention system for interfering unauthorized  
5 imaging of visual image projected on a screen, the imaging prevention system comprising:

at least one or more infrared light projector means for projecting infrared light;

at least one or more light sensors disposed in a rear side of the  
10 screen viewing from a viewer/audience side; and

an infrared light projection control unit for accepting output signals from said light sensors and for controlling individually to project infrared light from said at least one or more infrared light projector means in case that a brightness of the screen surface is equal or less than  
15 a predetermined brightness; wherein

said at least one or more infrared light projector means projecting the infrared light being associated with an area corresponding to the light sensor detecting the brightness equal or less than said predetermined brightness.

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44. A imaging prevention system for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention system comprising:

at least one or more infrared light projector means for projecting  
25 infrared light;

reproducing means for reproducing time information, in which brightness at the screen becomes equal or less than a predetermined brightness value, from a recording medium; and

an infrared light projection control unit for controlling projection  
30 of infrared light from said at least one or more infrared light projector means in accordance with the reproduced information.

45. A imaging prevention system for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention system comprising:

5 at least one or more infrared light projector means for projecting infrared light;

reproducing means for reproducing area and time information, in which brightness at the screen becomes equal or less than a predetermined brightness value, from a recording medium; and

10 an infrared light projection control unit for controlling individually projection of infrared light from said at least one or more infrared light projector means associated with corresponding areas on the screen in accordance with the reproduced information.

15 46. A imaging prevention system for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention system comprising:

at least one or more infrared light projector means for projecting infrared light;

20 receiving means for receiving information from a network for time in which brightness at the screen becomes equal or less than a predetermined brightness value in synchronization with the projection of said visual image;; and

25 an infrared light projection control unit for controlling projection of infrared light from said at least one or more infrared light projector means in accordance with the received information.

30 47. A imaging prevention system for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention system comprising:

at least one or more infrared light projector means for projecting

infrared light;

receiving means for receiving information from a network for area and time in which brightness at the screen becomes equal or less than a predetermined brightness value in synchronization with the projection of said visual image, and

an infrared light projection control unit for individually controlling projection of infrared light from said at least one or more infrared light projector means associated with corresponding areas on the screen in accordance with the received information.

48. A imaging prevention system for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention system comprising:

at least one or more infrared light projector means comprising a plurality of light emitting device disposed in an array form for projecting infrared light;

shielding period detection means for detecting a period of shielding the projection light with a frame transferring shutter when the visual image is projected from a film type projector means; and

an infrared light projection control unit for controlling emission of said infrared light projector means based on detection results of said shielding period detection means.

49. A imaging prevention system for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention system comprising:

at least one or more infrared light projector means disposed in a vicinity of the screen surface at a front side of the screen viewing from a viewer/audience so as said infrared light reflected on the screen to be incident into imaging means of a person conducting the unauthorized act.



50. A imaging prevention system for interfering unauthorized imaging of visual image projected on a screen, the imaging prevention system comprising:

at least one or more infrared light projector means disposed in a  
5 vicinity of the screen surface for projecting infrared light to the screen;

projecting direction actuator means for driving said infrared light projector means to vary its projection direction;

memory means for recording projecting direction information of each infrared light projector means according to a screen size; and

10 projecting direction control means for reading out said projecting direction information from said memory means when an instruction to change the screen size is detected, for providing the read-out information to said projecting direction actuator means, and for automatically adjusting a projecting direction of said infrared light projector means.

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51. Apparatus for interfering unauthorized imaging of visual image appeared on a screen, comprising:

an infrared light projector disposed near said screen for projecting infrared light in such a way that the infrared light can be incident onto  
20 imaging apparatus that is being operated for imaging the visual image on said screen.

52. Apparatus for interfering unauthorized imaging of visual image appeared on a screen, comprising:

25 an infrared light projector projecting infrared light; and

infrared light reflector reflecting infrared light projected from said infrared light projector so as said infrared light to be incident onto imaging means that is being operated for imaging the visual image on said screen.

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53. Apparatus for interfering unauthorized imaging of visual image

appeared on a screen, comprising:

an infrared light projector projecting infrared light; and  
emission controller controlling emission of said infrared light  
projector in accordance with a predetermined emission pattern.

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54. Apparatus for interfering unauthorized imaging of visual image  
appeared on a screen, comprising:

an infrared light projector comprising a plurality of light emitting  
devices disposed in an array format for projecting infrared light; and

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a control unit controlling said light emitting devices.

55. Apparatus for interfering unauthorized imaging of visual image  
projected on a screen, comprising:

an infrared light projector projecting infrared light;

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a light sensor detecting brightness of said screen; and

a control unit controlling said infrared light projector in  
accordance with a detection result of said light sensor.